

X. RECOVERY CONSIDERATIONS

The Department's recovery objective for coho salmon is to protect and expand existing natural populations and reestablish a sufficient number of additional native populations in restored and protected habitats. This will insure their long-term survival within their native habitat and range north of and including San Francisco Bay. Recovery actions will focus on restoring, rehabilitating, and protecting habitat to ensure recovery of natural spawning populations, in accordance with State statute and Commission and Department policies.

From a management and recovery perspective, State statute and Commission policy places management emphasis and priority on natural rather than hatchery-origin stocks. For example, FGC Section 6901 states:

- C Proper salmon and steelhead trout resource management requires maintaining adequate levels of natural, as compared to hatchery, spawning and rearing.
- C Reliance upon hatchery production of salmon and steelhead trout in California is at or near the maximum percentage that it should occupy in the mix of natural and artificial hatchery production in the state. Hatchery production may be an appropriate means of protecting and increasing salmon and steelhead in specific situations; however, when both are feasible alternatives, preference shall be given to natural production.
- C The protection of, and increase in, the naturally spawning salmon and steelhead trout of the state must be accomplished primarily through the improvement of stream habitat.

Also, the Commission policy on Cooperatively Operated Rearing Programs for Salmon and Steelhead states: *“The bulk of the state’s salmon and steelhead resources shall be produced naturally. The state’s goals of maintaining and increasing natural production take precedence over the goals of cooperatively operated rearing programs.”* The Commission policy on salmon states that *“Salmon shall be managed to protect, restore, and maintain the populations and genetic integrity of all identifiable stocks. Naturally spawned salmon shall provide the foundation for the Department’s management program.”*

The Department’s Salmon and Steelhead Stock Management Policy focuses on the protection of the genetic integrity of stocks through evaluation of streams and classification of their stocks according to probable genetic source and degree of integrity. Stocking programs and the role of artificial production are guided by this classification system.

In addition, monitoring the long-term trend of adult coho salmon population numbers throughout the petitioned area, as well as within sub-watersheds, is necessary. Recovery goals must ensure that the individual populations, as well as the collective metapopulation(s), are sufficiently abundant to avoid genetic risks of small population size. Therefore, these goals need to address abundance levels (adult spawning escapements), population stability criteria, population distribution, and length of time for determining sustainability. The Department will develop appropriate downlisting or delisting criteria, based on the best scientific information available, and periodically reexamine the status of coho salmon. When, in the Department's

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judgment, recovery goals and downlisting or delisting criteria have been met, it will make recommendations to the Commission regarding changing the status of this species.

Recovery of viable coho salmon populations in streams north of San Francisco will require vigorous efforts by the Department, other government agencies, and the private sector to reverse the present trend of coho salmon habitat debilitation. Watershed, water flow and quality, and habitat conditions must be improved to provide the necessary spawning and rearing habitat to allow the natural coho salmon population to survive, diversify, and increase to levels sufficient to withstand droughts, unfavorable climatic and oceanic conditions, and other uncontrollable natural phenomenon.

Reintroduction and expansion of naturally reproducing populations may require limited artificial propagation. These activities would be conducted under Department authority in cooperation with federal and local governments and stakeholders. Such an activity has already been implemented at Warm Springs Hatchery. Cooperative restoration efforts programs would be initiated with all county governments where viable coho salmon populations occurred historically. The CDF would necessarily be an active partner in stabilization and restoration of coho salmon habitat within wildland areas, through their authority in timberland management and wildland and rural fire control. Other appropriate federal, state, and local governmental units would be incorporated in efforts to restore and maintain stream and riparian habitats including water flow and quality. The success of the restoration efforts will largely hinge on the cooperation and participation of the local communities and landowners.

Recovery Planning

The ESA requires that recovery plans for federally-listed species be developed and implemented. Recovery plans should contain (1) objective, measurable goals for delisting; (2) a comprehensive list of the actions necessary to achieve the delisting goals; and (3) an estimate of the cost and time required to carry out those actions. In addition, NMFS Recovery Planning Guidelines suggest that recovery plans include an assessment of the factors that led to population declines and/or which are impeding recovery. Finally, it is important that the plans include a comprehensive monitoring and evaluation program for gauging the effectiveness of recovery measures and overall progress toward recovery.

NMFS has recently begun to implement a planning process to develop recovery plans for listed anadromous salmonids. Rather than developing a recovery plan for each individual species as was done in the past, NMFS will develop a single, multispecies plan for all listed anadromous salmonids inhabiting specific geographic areas, or “recovery domains”. In California, four recovery domains have been identified (listed ESUs within each domain are in parentheses):

- C Southern Oregon/Northern California Coast (SONCC Coho).**
- C North-central California Coast (CCC Coho, Central California Coast Steelhead, Northern California Steelhead, California Coast Chinook).**
- C South-central California Coast (South-central California Steelhead, Southern California Steelhead).**
- C California Central Valley (Central Valley Steelhead, Central Valley Spring-run Chinook, Sacramento River Winter-run Chinook).**

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NMFS has established a Recovery Science Review Panel (Panel) to guide the recovery planning process throughout the west coast range of the listed salmonids. The Panel will: 1) review core principles and elements of the recovery planning process NMFS is developing; 2) ensure that well-accepted and consistent ecological and evolutionary principles form the basis for all recovery efforts; 3) review processes and products of all TRTs for scientific credibility and consistency; and 4) oversee a recovery plan peer review process.

A Technical Recovery Team (TRT) will be appointed by NMFS for each recovery domain. TRTs will consist of about six to nine respected scientists from inside and outside government with a mix of expertise in salmon biology, population dynamics, conservation biology, ecology, and other disciplines necessary for setting recovery standards and for measuring recovery efforts. TRT members will be appointed by NMFS based on their ability to assess factors responsible for the decline of each of the 26 salmon populations that have been identified as at risk of extinction. They will also develop recovery goals for the fish and their habitats. The TRTs will work in coordination with teams of existing scientists from state, federal, tribal, and local agencies, and in concert with ongoing conservation planning efforts in each region.

The TRTs will be asked to: 1) identify population and de-listing goals for each listed ESU within the domain; 2) characterize habitat/fish abundance relationships; 3) identify the factors for decline and limiting factors for each ESU and identify the early actions that are important for recovery; 4) identify research, evaluation, and monitoring needs; and 5) serve as science advisors to groups charged with developing measures to achieve recovery. Recovery goals must, at a minimum, restore listed ESUs to levels at which they are no longer threatened and can therefore be delisted under the ESA.

In 2001, TRT members were appointed for the Southern Oregon/Northern California Coast and the North-central California Coast domains. These two domains encompass the range of coho salmon in California. The Department plans to participate fully in the NMFS recovery planning process. To this end, Department biologists have been appointed to each of the above TRTs. Both TRTs have convened and have begun to develop delisting criteria for the listed species, including coho salmon, within each domain and will continue to meet monthly.

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